RADIODETERMINATION

§ 80.375 Radiodetermination frequencies.

This section describes the carrier frequencies assignable to radiodetermination stations. Only direction finding radar stations will be authorized on land.

(a) *Direction finding frequencies.* The carrier frequencies assignable to ship stations for direction finding operations are:

CARRIER FREQUENCY
410 kHz
500 kHz
2182 kHz
8364 kHz
121.500 MHz
243.000 MHz

(1) Except in distress the assigned frequency for direction finding is 410 kHz;

(2) Ship stations may use 500 kHz for direction finding exclusively in Regions 1 and 3 outside areas of heavy radio traffic. Use must not interfere with distress urgency and safety signals or calls and replies.

(b) *Radiodetermination frequencies for cable-repair ships.* Except in Region 1 the channels in the 285–325 kHz band are assignable to ship stations for cable-repair radiodetermination operations. In Region 1 the channels available for assignment for such operations are limited to the 285–315 kHz band. The conditions of use of these channels are set forth in subpart X of this part. Channel usage must comply with the following requirements:

(1) They are not permitted within the territorial waters of a foreign country;

(2) Their output power must not exceed 15 watts; and

(3) They must not cause interference to any maritime station in the radionavigation service.

(c) *Radiodetermination frequencies below 500 MHz.* The frequencies 154.585 MHz, 159.480 MHz, 160.725 MHz, 160.785 MHz, 454.000 MHz and 459.000 MHz are authorized for offshore radiolocation and associated telecommand operations under a ship station license provided:

(1) The use of these frequencies is related to the ship's commercial operations;

(2) The station antenna height does not exceed 6 meters (20 feet) above sea level in a buoy station or 6 meters (20 feet) above the mast of the ship in which it is installed.

(d) *Radiodetermination frequency bands above 2400 MHz.* (1) The radiodetermination frequency bands assignable to ship and shore stations including ship and shore radar and transponder stations are as follows: 2450–2500 MHz; 2900–3100 MHz; 5460–5650 MHz; 9300–9500 MHz; and 14.00–14.05 GHz.

(2) Assignment of these bands to ship and coast stations are subject to the following conditions:

(i) The 2450–2500 MHz band may be used only for radiolocation on the condition that harmful interference must not be caused to the fixed and mobile services. No protection is provided from interference caused by emissions from industrial, scientific, or medical equipment;

(ii) The use of the 2900–3100 MHz, 5470–5650 MHz and 9300–9500 MHz bands for radiolocation must not cause harmful interference to the radionavigation and Government radiolocation services. Additionally, the use of the 2900–3000 MHz band for radiolocation must not cause harmful interference to the Government meteorological aids service.

(iii) In the 2920–3100 MHz and 9320–9500 MHz bands the use of fixed-frequency transponders for radionavigation is not permitted;

(iv) Non-Government radiolocation stations may be authorized in the 5460–5470 MHz band on the condition that harmful interference shall not be caused to the aeronautical or maritime radionavigation services or to Government radiolocation service;

(v) The use of the 5460–5650 MHz band for radionavigation is limited to shipborne radar;

(vi) The use of the 14.00–14.05 GHz band will be authorized only for test purposes and maritime radionavigation on a secondary basis to the fixed-satellite service; and

(vii) Selectable transponders must be authorized under Part 5 of the Commission rules until technical standards for their use are developed.

(3) In addition to the conditions in (2) of this paragraph ship stations are subject to the following conditions:

(i) Transponders used for safety purposes will be authorized in the 2900–3100 MHz, 5470–5650 MHz and 9300–9500 MHz bands. Transponders used for non-safety purposes will be confined to the 2930–2950 MHz, 5470–5480 MHz and 9300–9500 MHz subbands only;

(ii) In the 2900–2920 MHz and 9300–9320 MHz subbands the use of radars other than those installed prior to January 2, 1976, is not permitted;

(iii) In the 2920–3100 MHz and 9320–9500 MHz bands non-selectable transponders will be authorized only for safety purposes;

(iv) Non-selectable transponders must not be used to enhance detection of marine craft;

(4) In the 2920–3100 MHz and 9320–9500 MHz bands shore station radar transponders used only as racons will be authorized.

(e) In addition to the other technical requirements contained in subpart E of this part search and rescue transponder stations must meet the following technical standards contained in the latest international Radio Consultative Committee (CCIR) Recommendation 628 titled ''Technical Characteristics for a Search and Rescue Radar Transponder'':

(1) Operate in the 9300–9500 MHz band;

(2) Be horizontally polarized at their source;

(3) Have an effective receiver sensitivity including its antenna gain better than −50 dBm;

(4) Operate within specifications between the temperatures of −20 and +50 degrees Celsius;

(5) Operate within specifications for at least 48 hours at 0 degrees Celsius without changing batteries;

(6) Have a sawtooth sweep with a 5 microseconds ± 0.5 microseconds rate and return of less than 0.5 microseconds;

(7) Have a pulse emission of 100 microseconds maximum duration;

(8) Have a recovery time following excitation of 10 microseconds or less;

(9) Have a delay between receipt of a radar signal and start of transmissions of 1.25 microseconds or less;

(10) Have an antenna whose vertical beamwidth is no less than 25 degrees and its azimuthal beamwidth is omnidirectional within 2 dB; and

(11) Suppress interference caused by the interrogating radar antenna's sidelobes.

[51 FR 31213, Sept. 2, 1986, as amended at 52 FR 7419, Mar. 11, 1987; 55 FR 6394, Feb. 23, 1990; 57 FR 26779, June 16, 1992; 58 FR 44953, Aug. 25, 1993]

EFFECTIVE DATE NOTE: At 68 FR 46970, Aug. 7, 2003, § 80.375 was amended by revising paragraphs (a) and (e) and removing paragraphs (d)(2)(vii), (d)(3), and (d)(4) effective October 6, 2003. For the convenience of the user the revised text is set forth as follows:

§ 80.375 Radiodetermination frequencies.

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(a) *Direction finding frequencies.* The carrier frequencies assignable to ship stations for directional finding operations are:

Carrier Frequency
8364 kHz
121.500 MHz
243.00 MHz

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(e) *Search and rescue radar transponder stations.* The technical standards for search and rescue transponder stations are in subpart W of this part.

SHIP EARTH STATIONS

§ 80.377 Frequencies for ship earth stations.

The frequency band 1626.5–1645.5 MHz is assignable for communication, radiodetermination and telecommand messages, and developmental operations that are associated with the position, orientation and operational functions of maritime satellite equipment. The frequency band 1645.5–1646.5 MHz is reserved for use in the Global Maritime Distress and Safety System (GMDSS).

[51 FR 31213, Sept. 2, 1986, as amended at 57 FR 26779, June 16, 1992]

AIRCRAFT STATIONS

§ 80.379 Maritime frequencies assignable to aircraft stations.

This section describes the maritime frequencies assignable to aircraft stations for simplex operations: